

Installation Checklist *LaserHawk*[®] 360



1. Customer Contact Information:

Name:	
Title:	
Company:	
Phone:	
FAX:	
Email:	
Stack Identification:	

2. Mounting Flange:

- I will supply my own 4-inch flanges for the Standard Installation
- I wish to use something other than 4-inch flanges, described below:

3. Mounting Tube Length:

The typical length of the mounting tube is between 2 inches and 8 inches in length including the flanges and adapters. If the process to be measured is 500 °F or above, we recommend using a Mounting Tube length of 6 inches. Let us know the length in one of the following units.

	Ft.		Inches
Or:			
	cm		

4. Stack Diameter or Duct Width at installation port location:

Small diameter stacks may require an optional **LIGHT TRAP**, which is a device that prevents laser energy reflecting off the far stack wall opposite the Optical Head from being reflected into the viewing optics. A **LIGHT TRAP** is generally required only for stack diameters less than 6.5 feet (2 meters), but may be necessary at great diameters based on mounting tube length, particulate mass range and other factors.

	Ft.		Inches
Or:			
			Meters

5. Temperature of the process to be measured:

Range:		F	Typical:		F
or			or		
Range:		C	Typical:		C

6. Process Static Pressure:

	Inches of H2O
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7. Mounting Clearance:

- The standard Mounting Clearance is sufficient.
- I will use something other than the standard Mounting Clearance, described below:

8. Data Cable Length: The Data Cable is supplied at an **additional** cost.

I wish to purchase:		Feet of Data Cable.
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9. Stack Power Circuit Capacity:

This is typically 115 VAC and 10A. We can use other voltages including 230 VAC.

	Volts		Amps
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10. Correction to Standard Conditions: I do **NOT** want this option.

Some sites may wish to correct the Particulate measurement to Standard Conditions by measuring the process temperature and pressure. The LaserHawk® 360 can mathematically

correct for temperature and pressure if they are supplied as inputs to the monitor. If you want this option, let us know where you want to locate the input module:

At the Stack or Duct location

In the Control room or where I plan on locating the Enhanced Remote Panel.

10.1 Barometric Pressure Transducer options

In order to accurately scale the Barometric Pressure Transducer, we need to know the Elevation (above Sea Level) where the monitor will be located or a “Typical Barometric Pressure Range” for your location:

Elevation above Sea Level:	
Elevation of monitor on Stack:	

PRESSURE TRANSDUCER OPTIONS				Check one
1. I do NOT want to use any Barometric Pressure Transducer.				<input type="checkbox"/>
2. I do want to use a Barometric Pressure Transducer, and I wish to purchase the Pressure Transducer option from TELEDYNE Monitor Labs.				<input type="checkbox"/>
3. I DO want to use a Barometric Pressure Transducer, and I will supply my own. See scaling below.				<input type="checkbox"/>
	PRESSURE VALUE	VOLTAGE (IF VOLTAGE LOOP)	CURRENT (IF CURRENT LOOP)	
MINIMUM SCALE				
MAXIMUM SCALE				

10.2 External Temperature Options

EXTERNAL TEMPERATURE OPTIONS					Check one
I do NOT want to use the External Temperature Option.					<input type="checkbox"/>
I DO want to use the External Temperature Option, and I wish to purchase a temperature sensor from TELEDYNE Monitor Labs Inc.					<input type="checkbox"/>
I DO want to use the External Temperature Option, and I will supply my own. See scaling below.					<input type="checkbox"/>
	TEMPERATURE VALUE	VOLTAGE (IF VOLTAGE LOOP)	CURRENT (IF CURRENT LOOP)	1000 Ω OR 100 Ω RTD	
MINIMUM SCALE					
MAXIMUM SCALE					

11. Maximum Particulate Limit:

Typical Integration Periods are One Minute or Six Minutes. The Particulate Emission Limit is usually listed on your operating Permit.

Integration Period: (in minutes)		Particulate Emission Limit:	
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12. Specify Full Scale: Typical units are grains/Aft³, grains/Nft³, grains/DrySft³, mg/Am³, mg/Nm³, lbs/mmbtu.

Particulate Mass Units:		Note that the "A" stands for "Actual" or uncorrected values and "N" stands for units which are corrected for temperature and/or pressure to "Normal"
Particulate Mass Scaling:		
Before, After or No Control Device:		<ul style="list-style-type: none"> Do you have a particulate control device at all? Will the monitor be located BEFORE or AFTER the particulate Control device? Do you have an Electrostatic Precipitator, Baghouse or some other particulate control device? <p>* If full scale is given in terms of lbs/mmbtu, then the following information is also needed:</p> <ul style="list-style-type: none"> Fuel Constant or Fuel Type Typical CO₂ (specify if the value is a WET or a DRY measurement) Typical moisture if CO₂ or PM is in DRY units
EP, Baghouse or Other:		
Typical Barometric Pressure		
*Typical Moisture %		
*Typical CO₂ (specify Wet or Dry):		
*Fuel Constant or Fuel type:		

13. Use Auto Cal Sequence? YES NO

14. Use External Mode Calibration? YES NO

15. Specify Calibration Cycle Output Times:

Each of the three phases must have number between 0 and 720. The standard configuration is 120 seconds for ZERO and Upscale and 0 seconds for DUST COMP.

Zero:		Seconds
Upscale:		Seconds
Dust Comp.:		Seconds

16. System Configuration: (Select One of the following)

Direct Interface

Enhanced Remote Panel

If you selected the Direct Interface Configuration, fill out the following:
(Section A)

Output Units:	<input type="checkbox"/> Backscatter Energy	or	<input type="checkbox"/> Particulate Mass
Current Outputs:	<input type="checkbox"/> 4 to 20 mA.	or	<input type="checkbox"/> 0 to 20 mA.
Relay Output #1:			
Relay Output #2:			
Digital Input #1:			
Digital Input #2:			

Only if you selected the Enhanced Remote Panel Configuration, fill out this page:

(Section B)

Analog Output #1:	
Analog Output #2:	
Analog Output #3:	
Analog Output #4:	

Relay K1:	
Relay K2:	
Relay K3:	
Relay K4:	
Relay K5:	
Relay K6:	
Relay K7:	
Relay K8:	

Ethernet Module Setup

The Ethernet Module in the Enhanced Remote Display is capable of automatically obtaining an IP address from a DHCP server or can be configured to use a Static IP address.

Check here if you want to use a Static IP address. If yes, please supply the network information in the table below.

Static IP address	
Subnet Mask	
Default Gateway	

